

Serial No.: 09/873,796

informing in a downlink communication with a mobile station, the identities and windows for detection of positioning signals and;

paging positioning elements within the cell to transmit said positioning signals;

and

receiving a report from the mobile station in its uplink communication on the results of detection.

19. (New) A method of positioning a mobile station as in claim 18 in which, where the reported results of detection are insufficient, the positioning elements are reconfigured by the base station by re-paging of a positioning element within a predetermined time.

20. (New) A method of positioning a mobile station as in claim 19 in which the reconfiguration comprises the positioning element re-transmitting its positioning signal at the next allotted time with a power level increased by a predetermined amount.

21. (New) A positioning element for use in positioning mobile stations communicating with a controlling base station of a cellular network via an air interface and in which the positioning element;

synchronizes with downlink transmissions of the controlling base station, and

transmits positioning signals at predictable times following receipt of a paging signal from the controlling base station.

Serial No.: 09/873,796

22. (New) A positioning element for use in positioning mobile stations communicating with a controlling base station of a cellular network via the air interface and in which the positioning element;

synchronizes with downlink transmissions of the controlling base station, and transmits positioning signals periodically at predetermined times relative to the time of detection by said positioning elements of a signal or part of a signal transmitted by said base station.

23. (New) A positioning element as in claims 21 or 22 for use in a CDMA cellular network and in which the positioning signals comprise spreading codes uniquely associated with each positioning element.

24. (New) A mobile station for communicating with a cellular network and in which the mobile station synchronizes with downlink transmissions from a controlling base station and detects positioning signals from positioning elements synchronized to said downlink transmissions and wherein the timing intervals and character of the positioning signals to be detected are signalled to the mobile station from the controlling base station in advance of receipt of the positioning signals at the mobile station.

25. (New) A mobile station as in claim 24 operating with a CDMA cellular network in which the results of detection of positioning signals are reported to the controlling base station in uplink communication with the base station.—